

APPENDIX D

Summary of Proposed Modifications to the California Refueling Emission Standards and Test Procedures

1. Amendments Proposed for LEV II. The modifications consist of the proposed refueling standard and its associated requirements. These modifications are described in Part III of the preliminary draft Staff Report.

2. Amendments Proposed for CAP 2000. No modifications to the actual ORVR standards and test procedures are being proposed in this rulemaking as a result of CAP 2000. However, because the current ORVR Test Procedures reference Title 40, Code of Federal Regulations (CFR), Subpart A which will no longer apply to light-duty vehicles under the proposed CAP 2000 amendments, staff has revised the current ORVR Test Procedures to reference Subpart S beginning with the 2001 model year. To do this, staff has amended the applicability of the current ORVR Test Procedures to apply from 1998 through 2000 model years and is proposing a new ORVR Test Procedure that will begin with the 2001 model year to align with the CAP 2000 requirements. The only difference between the current ORVR Test Procedures and the proposed test procedure is that only those sections of Subpart S which apply to on-board vapor recovery standards and test procedures and included in the new ORVR Test Procedures. All other sections of Subpart S are incorporated by reference the “California Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles.”

State of California
AIR RESOURCES BOARD

PROPOSED

**CALIFORNIA REFUELING EMISSION STANDARDS AND TEST PROCEDURES
FOR 2001 AND SUBSEQUENT MODEL MOTOR VEHICLES**

Adopted: _____

CALIFORNIA REFUELING EMISSION STANDARDS AND TEST PROCEDURES FOR 2001 AND SUBSEQUENT MODEL MOTOR VEHICLES

The provisions of Title 40, Code of Federal Regulations (CFR), Part 86, Subparts B and S, (as adopted or amended by the U.S. Environmental Protection Agency (U.S. EPA) on the date listed) to the extent they pertain to the testing and compliance of vehicle refueling emissions for passenger cars, light-duty trucks and medium-duty vehicles, are hereby adopted as the "California Refueling Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles" with the following exceptions and additions.

Subpart S Requirements

I. General Certification Requirements for Refueling Emissions

A. Applicability

1. These refueling standards and test procedures are applicable to all new 2001 and subsequent model gasoline, alcohol, diesel, and hybrid electric passenger cars, light-duty trucks and medium-duty vehicles with a gross vehicle weight rating of less than 8,501 lbs. Gaseous fueled vehicles are exempt from meeting these refueling standards. In cases where a provision applies only to a certain vehicle group based on its model year, vehicle class, motor fuel, engine type, or other distinguishing characteristics, the limited applicability is cited in the appropriate section or paragraph.

2. For general certification purposes, the requirements set forth in the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles" shall apply, except as otherwise noted in these test procedures.

3. Reference to vehicle sales throughout the United States shall mean vehicle sales in California, except when certifying to the refueling standards, in which case, vehicle sales shall mean throughout the United States.

4. A small volume manufacturer is defined as any vehicle manufacturer with California actual sales less than or equal to 4500 new vehicles per model year based on the average number of vehicles sold by the manufacturer in the previous three consecutive years.

5. Regulations concerning U.S. EPA hearings, inspections, specific language on the Certificate of Conformity, alternative useful life, and selective enforcement audit shall not be applicable to these procedures, except where specifically noted.

6. In those instances where testing conditions or parameters are not practical or feasible for vehicles certified to the refueling standards, the manufacturer shall provide a test plan that provides equal or greater confidence in comparison to these test refueling procedures. The test plan must be approved in advance by the Executive Officer.

7. The term “[no change]” means that these test procedures do not modify the applicable federal requirement.

B. Definitions, Acronyms

These test procedures incorporate by reference the definitions set forth in the Code of Federal Regulations and the definitions as set forth in the “California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles.”

C. Useful Life

1. Delete §86.1805-01 and replace with:

For 2001 through 2005 model year vehicles certified to the standards in section F.2., “useful life” shall have the same meaning as provided in Title 13, CCR, §2112. Approval of vehicles that are not exhaust emissions tested using a chassis dynamometer pursuant to Title 13, CCR, §1961 shall be based on an engineering evaluation of the system and data submitted by the applicant. The useful life of incomplete medium-duty vehicles certified to the “California Exhaust Emission Standards and Test Procedures for 1987 and Subsequent Model Heavy-Duty Otto-Cycle Engines and Vehicles,” shall be defined by the useful life of the medium-duty engine used in such vehicles. For vehicles certified to the standards in section F.3., “useful life” shall be 15 years or 150,000 miles, whichever first occurs.

D. On-Board Diagnostics

1. Delete §86.1806 and replace with:

The “Malfunction and Diagnostic System Requirements for 1994 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles and Engines” as set forth in Title 13, CCR, Section 1968.1, is hereby incorporated by reference into this test procedure. For purposes of this test procedure, all references to evaporative system monitoring, malfunction criteria, and MIL illumination and fault code storage shall also apply to refueling systems.

E. General Standards, increase in emissions; unsafe conditions; waivers

1. Amend §§86.1810-01 and 86.1810-04 as follows:

1.1 (a) through (j). [See the “California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles” or the “California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles.”]

1.2 (k) **Refueling emission general provisions.**

1.2.1 Delete (k)(1) and replace with the following:

1.2.1.1 Tables S01-3 and S01-4 give the minimum percentage of a manufacturer’s sales of the applicable model year’s gasoline-fueled and alcohol-fueled Otto-cycle, and petroleum-fueled and alcohol-fueled diesel-cycle light-duty vehicles and light-duty trucks under 5,751 loaded vehicle weight which shall be tested under the applicable procedure in subpart B of this part, and shall not exceed the standards described in paragraph F.2. Vehicles waived from the emission standards under the provisions of paragraph (l) through (n) of this section shall not be counted in the calculation of the percentage of compliance. Either manufacturer sales or actual production intended for sale in the United States may be used to determine combined volume, at the manufacturer’s option.

1.2.1.2. Delete §86.1810-04(k)(1).

1.2.2. Table 1.2-1 below gives the minimum percentage of a manufacturer’s sales, as determined by projected vehicle sales throughout California, of the applicable model year’s gasoline-fueled and alcohol-fueled Otto-cycle, and petroleum-fueled and alcohol-fueled diesel-cycle light-duty vehicles and light-duty trucks under 8,501 pounds gross vehicle weight rating which shall be tested under the applicable procedure in subpart B of this part, and shall not exceed the standards described in paragraph F.3. Vehicles waived from the emission standards under the provisions of paragraph (l) through (n) of this section shall not be counted in the calculation of the percentage of compliance. All 2004 through 2005 model year light-duty vehicles and light-duty trucks under 5,751 pounds loaded vehicle weight not subject to the refueling standards in section F.3, pursuant to the implementation schedule in Table 1.2-1 shall comply with the refueling standards specified in section F.2. Small volume manufacturers are exempt from the implementation schedule in Table 1.2-1 for model years 2004 and 2005 and are subjected to comply in the 2006 model year.

Table 1.2-1. Light-Duty Vehicles and
Light-Duty Trucks (under 8,501 pounds GVWR)

<u>Model Year</u>	<u>Percentage</u>
<u>2004</u>	<u>40</u>
<u>2005</u>	<u>80</u>
<u>2006</u>	<u>100</u>

1.3 (l) through (n) [No change.]

1.4 A manufacturer shall also demonstrate compliance with the fuel spillage test requirements contained in Title 13, California Code of Regulations, §2235, Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks, as last amended January 22, 1990, incorporated by reference herein.

2. In addition to the provisions set forth in these test procedures, the ARB reserves the authority to require testing to enforce compliance and to prevent noncompliance with the refueling emission standard.

3. Vehicles certified to the refueling emission standards set forth in Section F.2.2 below, shall not be counted in the phase-in sales percentage compliance determinations.

F. Emission Standards

1. Delete 40 CFR §§86.1811 through 86.1815 (all years).

2. The maximum refueling emissions for 2001 through 2005 ~~and subsequent~~ model gasoline-fueled, alcohol-fueled, diesel-fueled, fuel-flexible, and hybrid electric passenger cars, light-duty trucks and medium-duty vehicles with a gross vehicle weight rating less than 8,501 lbs. for the full useful life are:

2.1 0.20 grams hydrocarbons per gallon of fuel dispensed. [For purposes of these test procedures, hydrocarbons shall mean organic material hydrocarbon equivalent for alcohol-fueled vehicles.]

2.2 Vehicles powered by diesel fuel are not required to conduct testing to demonstrate compliance with the refueling emission standards set forth above, provided that all of the following provisions are met:

(A) The manufacturer can attest to the following evaluation: "Due to the low vapor pressure of diesel fuel and the vehicle tank temperatures, hydrocarbon vapor concentrations are low and the vehicle meets the 0.20 grams/gallon refueling emission standard without a control system."

(B) The certification requirement described in paragraph 2.2.(A) is provided in writing and applies for the full useful life of the vehicle.

3. The maximum refueling emissions for 2004 and subsequent model gasoline-fueled, alcohol-fueled, diesel-fueled, fuel-flexible, and hybrid electric passenger cars and light-duty trucks under 8,501 pounds gross vehicle weight rating for the full useful life are:

3.1 0.04 grams hydrocarbons per gallon of fuel dispensed. [For purposes of these test procedures, hydrocarbons shall mean organic material hydrocarbon equivalent for alcohol-fueled vehicles.]

3.2 Vehicles powered by diesel fuel are not required to conduct testing to demonstrate compliance with the refueling emission standards set forth above, provided that all of the following provisions are met:

(A) The manufacturer can attest to the following evaluation: “Due to the low vapor pressure of diesel fuel and the vehicle tank temperatures, hydrocarbon vapor concentrations are low and the vehicle meets the 0.04 grams/gallon refueling emission standard without a control system.”

(B) The certification requirement described in paragraph 3.2.(A) is provided in writing and applies for the full useful life of the vehicle.

Subpart B - Emission Regulations for 1977 and Later Model Year New Light-Duty Vehicles and New Light-Duty Trucks; Test Procedures

40 CFR §§ 86.101 through 86.145 and Appendix I (UDDS Schedule) of this Subpart B, as incorporated by reference and amended in the “California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles,” are hereby incorporated by reference herein.

Refueling Test Procedures

- 86.146-96 Fuel dispensing spitback procedure. March 24, 1993.
- 86.150-98 Overview, refueling test. April 6, 1994.
- 86.151-98 General requirements; refueling test. April 6, 1994.
- 86.152-98 Vehicle preparation; refueling test. April 6, 1994.
- 86.153-98 Vehicle and canister preconditioning; refueling test. April 6, 1994.
- 86.154-98 Measure procedure; refueling test. April 6, 1994.
- 86.155-98 Records required; refueling test. April 6, 1994.
- 86.156-98 Calculations. April 6, 1994.